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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,991	02/23/2006	Atsushi Takahashi	10114961	3219
34283	7590	12/27/2007	EXAMINER	
QUINTERO LAW OFFICE, PC 2210 MAIN STREET, SUITE 200 SANTA MONICA, CA 90405			MAI, HAO D	
ART UNIT		PAPER NUMBER		
3732				
MAIL DATE		DELIVERY MODE		
12/27/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/524,991	TAKAHASHI, ATSUSHI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hao D. Mai	3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 12 October 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-6 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-6 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 18 February 2005 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_.

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**DETAILED ACTION*****Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "4" (Figures 1-7).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121 (d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claims 1-6 are objected to because of the following informality: "the hydrophilic grindstone sponge" is sometimes referred to as "the hydrophilic sponge" (claims 2-3) or as "the grindstone" (claim 5). This may render indefiniteness and/or lack of antecedent bases among the claims. Appropriate corrections are required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. **Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

- Claim 1 recites the limitation "the top" (line 1 of claim 1), which lack antecedent basis.
- Claim 5 recites the limitation "the outside" (line 2 of claim 5), which lack antecedent basis.
- Claim 6 recites the limitation "the outside" (line 2 of claim 6), which lack antecedent basis.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiseman (2789352) in view of van Leuwen et al. (4008189) and further in view of Furuzono et al. (EP 1508586 A1).**

Wiseman discloses a prophy chip, mounted on top of a dental rotary instrument, comprising: a hollow cup-shaped core 18 containing tooth polishing material 19 (Figs. 1, 3); a shaft/shank 6 containing a connecting means (column 2 lines 15-21); a soft rubber base 5 covering core 18; and a shank-equipped latch plate 4 fixing base 5 to shank 6 (Figs. 1-3);

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column 2 lines 10-21). However, Wiseman fails to disclose hydrophilic sponge of polyurethane covering the core, wherein the hydrophilic sponge comprises a grindstone of  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$  therein; wherein the hydrophilic grindstone sponge is immersed in water prior to operation.

van Leuwen et al. disclose a hydrophilic polyurethane sponge/foam that is useful in cleaning and similar applications (abstract; column 1 lines 14-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wiseman by substituting the soft rubber base with a hydrophilic polyurethane sponge covering core 18 so that such sponge can absorb water to dissipate heat generated by friction. However, Wiseman/van Leuwen fail to disclose the hydrophilic polyurethane sponge comprising a grindstone of  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ ; and that such hydrophilic grindstone sponge is immersed in water prior to operation.

It is well known in the field of polishing and cleaning that grindstone and/or abrasive grains are embedded into rubber base sponge to clean and polish surfaces. Additionally, Furuzono et al. disclose a polyurethane-base material containing grindstone  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$  (paragraphs 16 and 39). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wiseman/van Leuwen by embedding the hydrophilic polyurethane with a grindstone specifically  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$  in order to provide an abrasive surface that effectively cleans and polishes surfaces of the teeth. Furthermore, it is inherent that a hydrophilic polyurethane with a grindstone  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$  can be immersed in water prior to operation.

**7. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiseman (2789352) in view of van Leuwen et al. (4008189), further in view of Furuzono et al. (EP 1508586 A1), and further in view of Kliger (3911922).**

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Wiseman/van Leuwen/Furuzono disclose the invention substantially as claimed.

However, Wiseman/van Leuwen/Furuzono fail to disclose the hydrophilic sponge and the core containing a water soluble agent consisting of a foaming agent, a sweetener, a fragrance, a medicament for inhibiting or preventing periodontal diseases or dental caries, or a coating agent that is releasable from the surface of the hydrophilic sponge. Wiseman/van Leuwen/Furuzono also fail to disclose the hydrophilic sponge (outside of the core) to be nonwoven and is a three-dimensionally continuous, porous film.

Kliger disclose a surgical polyurethane sponge which is nonwoven and a three-dimensionally continuous and porous film/layer (abstract; column 1 lines 49-62). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wiseman/van Leuwen/Furuzono by making the hydrophilic sponge nonwoven and porous so that water can be absorbed and released easily. Furthermore, official notice is taken that the use of a water soluble agent consisting of a foaming agent, a sweetener, a fragrance, a medication for inhibiting or preventing periodontal disease or dental caries, or a coating agent along with such prophy chip tool during teeth cleaning and/or polishing is well known in the dentistry field. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute Wiseman's tooth polishing material with such water soluble agent.

#### *Response to Arguments*

8. Applicant's arguments filed 10/12/2007, with respect to the rejection(s) of claim(s) 1-4 under Gozzi in view of Wiseman have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Wiseman/Leuwen/Furuzono.

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***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hao D. Mai whose telephone number is (571) 270-3002. The examiner can normally be reached on Monday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HDM 12/19/2007



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